Name:

at1113exam: Expand, factor, and solve quadratics (v217)

1. Solve the equation.

$$(9x + 2)(5x - 3) = 0$$

$x = \frac{-2}{9}$ $x = \frac{3}{5}$

2. Expand the following expression into standard form.

$$(9x - 5)(9x + 5)$$

$81x^2 + 45x - 45x - 25$

$81x^2 - 25$

3. Expand the following expression into standard form.

$$(5x + 7)(9x - 8)$$

$45x^2 - 40x + 63x - 56$

$45x^2 + 23x - 56$

4. Expand the following expression into standard form.

$$(8x + 5)^2$$

$64x^2 + 40x + 40x + 25$

$64x^2 + 80x + 25$

5. Factor the expression.

$$49x^2 - 64$$

$(7x + 8)(7x - 8)$

6. Factor the expression.

$$x^2 - x - 56$$

$(x - 8)(x + 7)$

7. Solve the equation with factoring by grouping.

$$12x^2 - 8x + 15x - 10 = 0$$

$(4x + 5)(3x - 2) = 0$

$x = \frac{-5}{4}$ $\qquad$ $x = \frac{2}{3}$

8. Solve the equation.

$$7x^2 - 36x + 3 = 2x^2 - 5x - 3$$

$5x^2 - 31x + 6 = 0$

$(5x - 1)(x - 6) = 0$

$x = \frac{1}{5}$ $\qquad$ $x = 6$